

WHAT IS CLAIMED IS:

1. A process for conducting operating heat of a semiconductor switch to a heating cell which is triggered by the semiconductor switch, comprising the steps of:

providing a cooling fin on the semiconductor switch;

placing said semiconductor switch over a surface of a first heat and current conducting material strip, said first heat and current conducting material strip being electrically connected to a supply voltage;

placing said first heat and current conducting material strip over a surface of a second heat and current conducting material strip with a heat-conducting insulating film located between the first and second heat and current conducting material strips;

placing said second heat and current conducting material strip on a surface of a frame terminal;

providing a heating cell;

electrically and thermally connecting said frame terminal to said heating cell;

placing said frame terminal on a surface of a second heat-conducting insulating film;

providing a supply terminal; and then

placing said heat-conducting insulating film on a surface of said power supply terminal.

2. A heating element comprising:

a semiconductor switch for triggering a heating element, said semiconductor switch including a cooling fin,

a first heat and current conducting material strip, said first heat and current conducting material strip being electrically connected to a supply voltage and being in contact with a surface of said semiconductor switch;

a second heat and current conducting material strip, said first heat and current conducting material strip being positioned over a surface of said second heat and current conducting material strip;

a first heat conducting thermally insulating film, said first heat conducting thermally insulating film being disposed between said first and second heat and current conducting material strips;

a heating cell;

a frame terminal, said frame terminal being electrically and thermally connected to said heating cell, said heat and current conducting material strip being positioned over a surface of said frame terminal;

a power supply terminal; and

a second heat conducting thermally insulating film, said second heat conducting thermally insulating film being disposed between said frame terminal and said power supply terminal.

3. The heating element as claimed in claim 2, wherein said first heat and current conducting material strip and said second heat and current conducting material strip each comprise electrocopper.

4. The heating element as claimed in claim 3, wherein said electrocopper has a thermal conductivity $\lambda = 400 \text{ W/mK}$ and a thickness of 1.0 mm.

5. The heating element as claimed in claim 4, wherein said frame terminal comprises electrocopper.

6. The heating element as claimed in claim 5, wherein said electrocopper has a thermal conductivity $\lambda = 400 \text{ W/mK}$ and a thickness of 1.0 mm.

7. The heating element as claimed in claim 5, wherein said power supply terminal comprises nickel-plated brass.

8. The heating element as claimed in claim 3, wherein said power supply terminal comprises nickel-plated brass.